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Editorial Comment

The Elderly, the Very Elderly and Traditional Practice Patterns*

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What is meant by "the elderly"? I suspect that most of us are "lumpers" rather than "splitters." Regarding the elderly, we tend to generalize about prognosis and response to therapy for a given clinical condition in patients who are >60 or >65 years old. Most of the findings in published studies are weighted toward patients in the 65 to 75 year old group. A majority of large multicenter interventional studies exclude patients >75 years old, who comprise a less homogeneous and therefore less predictable group in terms of intervention-induced side effects including serious morbidity and mortality, state of general health, presence of concurrent disease and short-term prognosis.

When does old age begin? At 60 or perhaps 65 or even 70? The distinction between old age and *really* old age is blurred and arbitrary and determined more by socioeconomic and political considerations than by either prevalence or severity of disease.

What is known about survivors of acute myocardial infarction in the very elderly? Prognosis with various management strategies in very elderly patients who survive acute myocardial infarction is largely unknown. Yet we expect a rapid increase in patients >75 years old as a percentage of the population. An often quoted demographic projection (1) for the very elderly, defined in this instance as those ≥85 years old, is a sixfold increase to almost 16 million within the next 40 years. The very elderly comprise the fastest growing segment of our population and clearly deserve special consideration for health care delivery.

Smith et al. (2) in this issue of the Journal describe their use of a large multicenter data base to address this problem. In a retrospective analysis they were able to classify the elderly who survived an acute myocardial infarction into those who were old (65 to 75 years) and those who were very old (>75 years).

Can traditional practice patterns sometimes constitute bias? Recently the effects of gender on prognosis after coronary artery bypass surgery were examined with use of multivariate analyses derived from a prospective study (3). In-hospital mortality was significantly higher among women than among men. Differences in severity of disease and age accounted for the higher perioperative mortality among women. It was concluded that women were referred for treatment later in the course of their disease than were men when the disease was more advanced and an ischemic syndrome, if present, was unstable. This referral bias has a basis in clinical reality. A large proportion of women with chest pain that mimics angina pectoris and even with abnormal results on graded treadmill exercise tests have normal coronary arteries or no coronary disease severe enough to warrant surgery. As a result, there may be a referral bias not to perform coronary angiography in the smaller percentage of women with significant obstructive coronary artery disease whose outcome may be improved by careful and early attention to symptoms, risk stratification and diagnostic testing. Clearly, more sensitive, specific and predictive noninvasive tests are needed.

The present study. Smith et al. (2) have exposed another significant subgroup, the very elderly survivors of acute myocardial infarction, whose treatment may be affected by referral bias. Patients in this older age group are less likely to be referred for coronary angiography with a view toward possible mechanical reperfusion with coronary artery bypass surgery or coronary angioplasty. Patients were more often very elderly women (two traditional indications for conservative management). Multivariate analysis of predictors of 1 year cardiac mortality suggested that the greater 1 year mortality in the very elderly compared with patients between 65 and 75 years old was associated with a greater prevalence of angina pectoris in the older group. Angina was less likely to be investigated by both noninvasive and invasive tests and was therefore less likely to be treated by reperfusion modalities. The percentage of patients who underwent exercise tests, coronary angiography, coronary artery bypass grafting and coronary angioplasty was significantly greater in the 65 to 75 year age group. In addition, the greater 1 year mortality in the very elderly may be explained in part by a significantly greater prevalence of non-Q wave myocardial infarction, which may have been managed less aggressively than in the younger age group. The very old were more likely to receive digitalis and diuretics and less likely to receive beta-adrenergic blocking agents (all significant differences), but sudden cardiac death was not significantly greater in this subgroup.

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The present study is important because it directly compares outcome in two large subgroups of elderly survivors of myocardial infarction—those 65 to 75 and those >75 years old. The greater 1 year cardiac mortality in the very elderly is best explained by a more traditional and conservative approach to diagnosis and intervention. In addition, more advanced coronary disease in the very elderly may be expected. In my experience the patient population and practice patterns in this data base differ considerably from those seen in many university-based tertiary referral centers. In many tertiary referral centers today, >50% of patients who undergo coronary artery bypass surgery including selected survivors of myocardial infarction are >70 years old and indeed many surgical patients are octogenarians. We need data to know whether this change in a traditional practice pattern prolongs life, prolongs meaningful life and prevents long and costly hospitalizations.

Examples of changes in traditional practice patterns. Some cardiovascular studies in the very elderly have already changed or should change traditional practice patterns. In one study (4) patients with a mean age of 77 ± 5 years (range 71 to 91) who survived out of hospital cardiac arrest by being successfully resuscitated and then hospitalized had a poorer survival rate during hospitalization than did patients <70 years old (mean 59 ± 8.5), as expected. However, contrary to traditional expectations, length of hospitalization, residual neurologic impairment and 2 year survival after hospital discharge did not differ significantly from results in younger patients. Resuscitation of very elderly victims of out of hospital sudden cardiac arrest seems to be reasonable and appropriate. Smith et al. (2) cite studies that report excellent results of coronary artery bypass grafting and elective coronary angioplasty in the very elderly.

What is needed? The present study addresses the need to take a more critical look at the very elderly (>75 years) on whom very few data are published compared with the 65 to 75 year old group for whom more data are available. Large multicenter randomized, double-blind prospective trials may be ideal but, pragmatically, large cardiovascular data bases may best provide answers. The Agency for Health Care Policy and Research, an agency within the Public Health Service of the U.S. Department of Health and Human Services, was created by Congress as recently as December 1989 with the explicit mandate to enhance the quality of patient care through outcome or effectiveness research in federally funded programs such as Medicare. The very elderly are clearly an important subgroup to study. There is a need for new data and analysis, collation and publication of existing data that may lead to updated practice guidelines and quality standards that will materially improve the cardiovascular care of the very elderly.

The efficacy of diagnostic tests and interventional therapies in the very elderly seems to improve the quality of life in properly selected patients. Whether useful life is prolonged can only be inferred without study; it is not enough to show that something can be done safely. The increased costs of more aggressive management of the very elderly are at least partly a societal issue. Should care for the very elderly be rationed if limited funds would deprive younger patients of needed care? The public will need guidance from cardiovascular specialists who, in turn, will need data derived from outcome research in the very elderly.

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